

REMARKS

The Final Office Action mailed January 16, 2009 has been carefully considered.
Reconsideration in view of the following remarks is respectfully requested.

Rejection(s) Under 35 U.S.C. § 103(a)

Claims 1-3 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kaneko et al. (U.S. pat. no. 5,932,990, hereinafter, “Kaneko”) and further in view of Baldwin et al. (U.S. pat. no. 6,583,603; hereinafter, “Baldwin”). Applicants respectfully traverse.

Claims 1 and 3 have been amended to further state that the load device is “is connected to an output side of the DC power supply apparatus.” This amendment is based on FIG. 1 of the present application.

Claims 1 and 3 have also been amended to state that the lithium ion battery for backup “is connected to the output side of said DC power supply apparatus in parallel with said load device.” This amendment is also based on FIG 1 of the present application.

Claim 1 has been amended to state that the charging path “is connected in series to the lithium ion battery. This amendment is also based on FIG. 1 of the present application.

Claims 1 and 3 have been amended to state that the charging current limiting circuit “is provided with a charging current control element.” This amendment is supported in line 22 on page 10 to line 1 on page 11 of the specification of the present application, which disclose “The charging current limiting circuit 4 is constituted of an error amplifier A 41; an error amplifier B 42 which has as inputs the output of the error amplifier A 41 and the reference voltage for setting the arbitrary charging current; a charging current control element 43 such as a transistor or the like; and a charging current detecting element 44 such as, for example, a resistor or the like” and FIG. 2 of the present application.

In claims 1 and 3, descriptions of “a switch” are amended to make the wording easier to understand.

In Claim 3, “a voltage regulation circuit” is amended to “a voltage regulation circuit, which is provided with a bypass current limiting element”. This amendment is based on lines 21 to 24 on page 11 of the specification of the present application which discloses “The voltage regulation circuit 5 is constituted by an error amplifier C 51 and a charging current bypass circuit 52 in which a bypass current control element 521 and a bypass current limiting element 522 are connected in series” and FIG. 3 of the present application.

In Claims 1 and 3, descriptions on “a control circuit” are amended to make the wording easier to understand.

As amended, claims 1 and 3 now state that “a charging current limiting circuit is provided with a charging current control element” and “a voltage regulation circuit is provided with a bypass current limiting element”. These features are not disclosed in or suggested by Baldwin Kaneko. In accordance with these features, it is possible to prevent the battery strings from receiving damaging excess recharge current levels. It should be noted that, in the final Office Action dated January 16, 2009, it was stated that “In response to applicant’s argument that the references fail to show certain features of applicant’s invention, it is noted that the feature upon which applicant relies (i.e., a charging current control element and a bypass current limiting element of a voltage regulation system) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.” In accordance with the amendments, that rejection should be resolved.

Further, in the final Office Action dated January 16, 2009, the Examiner rejected the present application under 35 U.S.C. § 103(a) as being obvious by combining Baldwin and Kaneko. However, combining Kaneko and Baldwin would be improper for the following reason. In lines 6 to 10 of column 9 of Baldwin, prevention of the battery strings 14 from receiving damaging excess recharge current levels is described. However, specific means for the prevention is unclear and applicants respectfully submits that such prevention is not enabled for a proper rejection to stand. Accordingly, when applying the structural feature of Baldwin into the

apparatus of Kaneko, it is expected that the prevention of the battery strings from receiving damaging excess recharge current levels is impossible. The reason is that there are no elemental devices, which are disclosed in the present invention, such as a charging current control element 43 for uniformizing cell voltages and a bypass current limiting element 522 of a voltage regulation circuit disclosed in Kaneko or Baldwin. Therefore, it is not possible to reject the present application as being obvious by simply combining Kaneko and Baldwin.

Consequently, because of the constitutional features which are not disclosed in the prior art documents, the present application can achieve the above-described technical effect which cannot be achieved by combining the cited prior art documents. Therefore, Claims 1 and 3 are not obvious over the cited prior art documents. Since Claim 2 is dependent to Claim 1, because of the dependency of Claim 2 to Claim 1, Claim 2 is not obvious over the cited prior art documents.

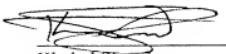
Conclusion

In view of the preceding discussion, Applicants respectfully urge that the claims of the present application define patentable subject matter and should be passed to allowance.

If the Examiner believes that a telephone call would help advance prosecution of the present invention, the Examiner is kindly invited to call the undersigned attorney at the number below.

Please charge any additional required fees, including those necessary to obtain extensions of time to render timely the filing of the instant Response to Office Action, or credit any overpayment not otherwise credited, to our deposit account no. 50-3557.

Respectfully submitted,
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